REMARKS

Status of the Claims

Claims 1-5, 7-9, 12-20, 26-40 and 42-46 are pending herein, claims 42-46 having been added, and claims 6, 10, 11, 21-25, and 41 having been deleted without prejudice or disclaimer.

Support for a patterned getter layer that is provided between at least some of the pixels (see claims 1, 17 and 26) can be found, for example, in previously pending claims 6 and 41. Support for a patterned getter layer having portions that are sufficiently narrow to prevent the patterned getter layer from cracking when the OLED device structure is flexed during normal service (see claim 26) can be found, for example, in claim 29. Support for new claim 42 can be found in previously pending claim 1. Support for a top emitting OLED structure (see new claims 43-46) can be found, for example, in paragraph [0020] of the specification. Support for a flexible OLED structure (see new claims 44 and 46) can be found, for example, in claim 26. Hence, no new matter is added.

Claim 30 has been amended to include the limitations of the base claim and any intervening claims to place it in a condition for allowance.

Prior Art Rejections: Claims 1-5, 7-9, 12-20, 26-29 and 31-40

Pending claims 1-5, 7-9, 12-20, 26-29 and 31-40 have been rejected under 35 U.S.C. 103(a) as being obvious over various combinations of the following references: Rogers (U.S. Patent No. 6,081,071), Jones (U.S. Patent No. 5,866,978), Duggal (U.S. Pat. No. 6,465,953), Liu (U.S. Patent No. 5,849,442), Bernius (U.S. Patent No. 6,383,664), Parthasarathy (U.S. Patent No. 6,420,031), Watkins (U.S. Patent No. 5,931,713), Sheats (U.S. Patent No. 6,146,225), Harvey III (U.S. Patent No. 5,757,126), Pilcher (U.S. Patent No. 5,929,562).

The Applicant respectfully traverses these rejections and their supporting remarks. Furthermore, in view of the amendments to the independent claims above, it is believed that these rejections have been rendered largely moot.

Because the features of claim 6 have been incorporated into independent claims 1 and 17, however, the rejection of claim 6 from the Office Action will be addressed here.

Specifically, the Office Action has rejected claim 6 being unpatentable over Rogers and Jones and further in view of Watkins. Applicant respectfully traverses this rejection.

For example, Rogers, Jones and Watkins, either alone or in combination, do not teach or suggest an OLED device structure as claimed in claims 1 and 17, which comprises a patterned getter layer that is configured so as to substantially avoid obstructing transmission of light from the active pixels of the device through the cover and to an outside environment, at least a portion of which patterned getter layer is provided between at least some of said pixels of the OLED device.

In this regard, it is noted that Watkins and Jones are taken from art that is far removed from OLED device structures. For example, the devices of Watkins and Jones are field emission display (FED) devices, which are inorganic, vacuum-sealed devices in which electrons are emitted from a cathode, striking a phosphor coated anode, whereupon light is produced. See, e.g., col. 1, lines 6-17 of Watkins. During FED manufacturing, gettering materials are activated after the device is assembled in order to rid the device of gases that are present within the device, including gases that are adsorbed to the interior surfaces of the device, thereby preventing arcing ("flash-over") and catastrophic failure of the pixels. See Jones at col. 2, line 5 to col. 3, line 3.

OLED devices such as those described in claims 1 and 26 and in Rogers, on the other hand, are organic, rather than inorganic, devices. Furthermore, OLED devices are not based on vacuum electron emission and hence do not undergo essentially-instantaneous, catastrophic failure due to the presence of gaseous impurities. Rather, OLEDs are packaged/encapsulated in an inert gaseous atmosphere, such as nitrogen, and they experience degradation over periods of days, weeks or even years in the presence of gaseous impurities. For example, gaseous impurities typically are required to diffuse through a solid state medium and into the organic layer between the cathode and anode in order for OLED degradation to occur.

Due to the above and other fundamental differences between the OLED and FED arts, it is respectfully submitted that one of ordinary skill in the art at the time of the invention would not have been motivated to combine the teachings of Jones and Watkins with the teachings of Rogers, and that the rejection of claim 6 in Office Action is based on the hindsight that is gained from applicants disclosure.

In this regard, "the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." *In re Rouffet*, 149 F.3d 1350, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998). Such reasons have not been provided here.

The Office Action argues that "it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the gettering material in the space between the pixels as suggested by Watkins in the OLED device of Rogers and Jones [*sic*][Jones is not an OLED device, but rather a field emission device] for more efficient gettering action and no additional space for housing the getter."

Applicant disagrees. In so stating, the Office Action does not take into consideration the fundamental differences that exist between the OLED and FED arts.

For example, the getter materials that are used in the FED art typically cannot be used (without catastrophic results) in the OLED art. For instance, according to Watkins, getter activation of FED devices requires elevated temperatures. See, e.g., col. 2, line 61 of Watkins. Organic materials used in OLED devices, such as those of claims 1 and 17, however, are highly sensitive to elevated temperatures. Indeed, the elevated getter activation temperatures taught in Watkins (i.e., 450° C) would typically result in decomposition of the vast majority of organic materials that are normally used in OLED devices. The fact that Watkins characterizes 450°C as a "relatively low" temperature, further demonstrates the chasm that lies between the FED and OLED arts.

As another example, the positioning of getter materials that is applicable in the FED art is simply inapplicable to the OLED art. For instance, Watkins teaches that the getter material should be placed in the space between the anode and cathode, and thus is integral with the active region of the device. See, e.g., col. 1, lines 29-31. The Office Action indicates that this is desirable in that it requires "no additional space for housing the getter."

However, it would be difficult, if not impossible, to introduce gettering materials between the electrodes of an OLED device. In this connection, Watkins, at col. 1, line 19, teaches an anode-cathode spacing of 200 to 250 microns for FED devices. In contrast, the cathode-anode spacing in an OLED device is typically on the order of about

100 *nanometers*, i.e., on the order of *1/1000th* the anode-cathode spacing of an FED device. Analogous to the above, the fact that Watkins characterizes an anode-cathode spacing of 200 to 250 microns as "very close" tends to further illuminates the gulf that lies between the FED and OLED arts. Moreover, even if one were to somehow introduce a getter material between the anode and cathode of an OLED device, harmful consequences would result, for example, electrical shorts (if a metal getter were to be used) or the presence of non-emissive regions. In this regard, in the OLED art, desiccant/gettering materials are typically placed remote from the active region of the OLED devices. See, e.g., col. 4, lines 7-10 of Rogers.

In view of the above, the Examiner is reminded that "[i]t is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." *In re Wesslau*, 353 F.2d 238, 241, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965); *see also Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 448-49, 230 U.S.P.Q. 416, 420 (Fed. Cir. 1986) (holding that district court, by failing to consider a prior art reference in its entirety, ignored portions of the reference that led away from obviousness).

For at least the above reasons, it is respectfully submitted that independent claims 1 and 17 (and hence all claims depending from claims 1 and 17 as well), are unobvious over Rogers, Jones and Watkins. Moreover, the additional references cited in the Office Action (e.g., Duggal, Liu, Bernius, Parthasarathy, Sheats, Harvey III, and Pilcher), do not make up for the above noted deficiencies in Rogers, Jones and Watkins.

The only other non-allowed, independent claim in the present application is claim 26. Because the features of claim 41 have been incorporated into independent claim 26, the rejection of claim 41 from the Office Action will be addressed here. Specifically, the Office Action has rejected claim 41 as being unpatentable over Rogers and Duggal and further in view of Watkins. Applicant respectfully traverses this rejection.

As recognized in the Office Action, claim 26 (with the incorporated limitations of claim 41) is analogous to claims 1 and 17 (with the incorporated limitations of claim 6),

in that it claims an OLED device structure, which comprises a patterned getter layer that is configured so as to substantially avoid obstructing transmission of light from the active pixels of the device the outside environment, wherein at least a portion of the patterned getter layer is provided between at least some of said pixels of the OLED device.

Claim 26 is thus patentable over Rogers and Watkins for the reasons set forth above. Claim 26, however, does differ from claims 1 and 17, at least in that it is directed to a flexible OLED device. Recognizing this, the Office Action cites Duggal, apparently for its teachings regarding flexible OLED devices (see col. 3, lines 8-14). Again, Applicant respectfully traverses this rejection.

First, as noted above, based on the fundamental differences between the OLED and FED arts, one of ordinary skill in the art at the time of the invention would not have been motivated to combine the FED teachings of Watkins with the OLED teachings of Rogers and Duggal, absent hindsight gained from applicant's disclosure.

Moreover, with respect to getter placement, Duggal takes a fundamentally different approach from claim 26, in which a patterned getter layer is disposed between the substrate and the cover. See, e.g., col. 3, lines 18-27, in which Duggal describes a plastic *substrate that is filled with particles of a getter material.*

In addition, although Duggal appears to teach flexible devices, the references that the Office Action proposes combining with Duggal are not.

For example, Rogers clearly teaches that the substrate and cover for the electroluminescent device are constructed from rigid materials. See. e.g., the following excerpts from Rogers:

> Cover 11 is generally comprised of a cover sheet 20 constructed of *glass or a substantially similar and suitable substantially* ***rigid*** *and transparent material....*

Col. 3, lines 4-6 (emphasis added).

> ... [P]rovided is an organic EL apparatus 10 of a type having EL device 13 carried by *substrate 12 preferably constructed of glass or other similar and suitable substantially* ***rigid*** *and transparent material.* Cover 11 is provided and includes *a cover sheet 20 constructed of glass, plastic or other similar and suitable substantially* ***rigid*** *and transparent material....*

Col. 3, lines 61-67 (emphasis added).

Like the OLED devices of Rogers, field emission display (FED) devices such as those described in Watkins are also formed using rigid materials, including glass. See, e.g., col. 2, lines 27-42 of Watkins.

However, despite the fact that Rogers and Watkins are directed to rigid devices, the Office Action attempts to cite Duggal as motivation for providing one of ordinary skill in the art with motivation to create a flexible OLED device. This is clearly a case of picking and choosing from any one reference "only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art."

For at least the above reasons, it is respectfully submitted that independent claim 26 (and hence all claims depending from claim 26 as well), is unobvious over Rogers, Watkins and Duggal. Moreover, the additional references cited in the Office Action (e.g., Jones, Liu, Bernius, Parthasarathy, Sheats, Harvey III, and Pilcher), do not make up for the above noted deficiencies in Rogers, Watkins and Duggal.

In view of the above, it is respectfully submitted that independent claims 1, 17 and 26, and claims 2-5, 7-9, 12-16, 18-20, 27-29, 31-40 and 42-46 depending thereon, are unobvious in view of the cited art.

Allowable Subject Matter

Claim 30 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. This has been done.

Accordingly, it is respectfully submitted that claim 30 is now in condition for allowance.

CONCLUSION

Applicants submit that all pending claims are in a condition for allowance, early notification of which is earnestly solicited. The Examiner is encouraged to telephone the Applicant's attorney at (703) 433-0510 in order that any outstanding issues be resolved.

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Respectfully submitted,

David B. Bonham
Registration No. 34,297

Attorney for Applicant
Mayer Fortkort & Williams, PC
251 North Avenue West, 2nd Floor
Westfield, NJ 07090
Tel.: 703-433-0510
Fax: 703-433-2362

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David B. Bonham
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